THE
ONTARIO WATER RESOURCES
COMMISSION

WATER POLLUTION SURVEY

of the

TOWN CREEK

TOWN OF TIMMINS

1970

Report

on a

WATER POLLUTION SURVEY

of

TOWN CREEK

in the

TOWN OF TIMMINS

District of Cochrane

September 1970

DISTRICT ENGINEERS BRANCH

DIVISION OF SANITARY ENGINEERING

INDEX

R E P O R T

THE ONTARIO WATER RESOURCES COMMISSION

I INTRODUCTION

A water pollution survey was conducted of Town Creek in the Town of Timmins during the month of May, 1970. The purpose of the survey was to locate and record all of the outfalls which discharge to, and relate their influence on, the water quality of Town Creek. Such surveys are performed by the Ontario Water Resources Commission upon request as a basis for determining existing and potential sources of pollution. Upon discovering sources of pollution, the municipality or responsible entity must then proceed with corrective action.

The information received and assistance supplied during the survey, from the Porcupine Health Unit and the Engineering Department of the Town of Timmins, is gratefully acknowledged.

II GENERAL INFORMATION

The Town Creek flows through the Town of Timmins in a southwesterly direction and discharges into the Mattagami River near the foot of Main Avenue. The town had a 1969 assessed population of 27,768 (1970 Municipal Directory). The people of Timmins rely economically on the mining developments within the area.

The soils bordering the northeastern section of Town Creek consist mainly of clayey overburden and muck. The banks of the southwesterly section were noted to be of sandy soil mixed with some muck and clay.

Town Creek appears to be the receiving watercourse for the effluent from several private sewer drains and septic-tank tile beds, as well as storm sewer outfalls.

III EXISTING SOURCES OF POLLUTION

The following is an outline of the relative degree of bacteriological pollution present at various locations of Town Creek. The bacteriological examinations of the samples were performed by the Regional Laboratory of the Department of Health, Timmins. A legend and a map are appended to this report describing the outfall and indicating the location of the sampling points. The survey only covers the section of Town Creek which is within the boundary limits of the Town of Timmins.

The pollution indicator bacteria of sanitary importance were chosen because of their association with intestinal or fecal discharges of man and animals and the possible presence of pathogenic bacteria in these fecal discharges. The presence of fecal coliforms indicates recent

fecal pollution. Various other types of coliform organisms originating from human, animal, or vegetation material are classified under total coliform counts.

The bacteriological counts presented below denote the number of total or fecal coliform organisms as noted per 100 ml of sample. The OWRC objective for surface waters, such as Town Creek, is to maintain the total coliform count below 2,400.

MTC-2.00 - a total coliform count of 90 and a fecal count of 12 was found at the point where the creek crosses the northern town limits. There were no homes or buildings located upstream of this sampling point in Town Creek.

MTC-1.91 - total and fecal counts of 70 and 14 respectively, indicate a similar condition to that mentioned above.

MTC-1.90 - a total and fecal count of 50 and 12 respectively shows a slight improvement in the bacteriological quality. This may be attributed to the dilution factor caused by storm water entering the creek between points MTC-1.91 and MTC-1.90. This discharge enters the creek in the centre of a culvert which crosses Tamarack Street and was inaccessable for sampling purposes.

MTC-1.90D - a ditch discharges surface water from a field located immediately northwest of the intersection of Tamarack Street and Hendry Avenue. Bacteriological results of a sample taken just before discharge to Town Creek indicates no fecal or total coliforms.

MTC-1.64W - a storm sewer discharge enters the creek on the west side of Pine Street. A total and fecal count of 110 and 88 respectively was determined. These figures are not unreasonable for surface runoff, as the immediate area is moderately developed.

MTC-1.52W - a total and fecal coliform count of 70 and 2 respectively was found in the storm sewer effluent which enters the creek at this point.

MTC-1.21 - a stream sample taken from this location revealed no serious impairment of the creek. Coliform counts were 50 total and 2 fecal.

MTC-1.21W - the storm sewer outfall located near the above stream sampling point was discharging a satisfactory effluent. Laboratory results indicated that no coliform organisms were present.

MTC-1.09 - coliform counts of 30 total and 4 fecal reveal the creek water to be of normal quality at this location.

MTC-1.07D - a slightly higher count of 120 total and 20 fecal, is apparent in the effluent from the drainage ditch, which discharges to the creek on the west side of Waterloo Road.

MTC-1.02P - Bacteriological counts of 240 total and 200 fecal indicate that it is doubtful that raw domestic sewage was being discharged from this private drain.

MTC-0.99W - a total and fecal count of 3,200,000 and 6 respectively, were present in the storm sewer effluent sample. It is suspected that sanitary wastes contribute to this high count.

MTC-0.87W - storm sewer effluent discharges to the creek west of Rea Street near Lincoln Avenue. Coliform counts of 8,000,000+ and 45,000 total and fecal, respectively, strongly indicate that sanitary wastes are gaining entry to the sewer. Dye tests were made of the sewage systems of two nearby homes located at 83 O'Neil Avenue and 310 Rea Street West. No traces of the dye were apparent in the storm sewer effluent following a reasonable waiting period.

MTC-0.81W-1 - coliform counts of 30 total and 4 fecal were determined in a sample from a storm sewer located south of Hillside Avenue.

MTC-0.68W - the results of coliform tests on a sample taken from this outfall show counts of 680,000 total and 150,000 fecal. These figures are indicative of the presence of human or animal wastes.

MTC-0.66P-1 - total and fecal coliform counts of 1200 each were found in a sample of the effluent which discharges to the creek from this private drain.

MTC-0.61 - the bacteriological stream water results of a sample taken at this location (approximately 500 feet upstream from where the east branch tributary discharges to Town Creek), indicated considerable pollution is present. Total and fecal counts of 140,000 and 100,000 respectively are in excess of the Commission's objectives for surface waters.

MTC-0.61RS - a relief sewer overflow pipe discharges directly to the creek. A total and fecal coliform count of 1700 and 14 indicates the presence of little or no domestic sewage in the effluent.

MTC-0.60D - the sample was obtained at the mouth of the east branch tributary. Total and fecal counts of 8,000,000+ and 90,000 respectively, were present in sample. This tributary is the receiving stream for the overflowing wastes which originate from Doran's Northern Ontario Breweries Limited. This may account for a significant amount of the pollution in this water course.

MTC-0.60D-3 - the bacteriological results of a sample taken further upstream in the above tributary, near Waterloo Road, showed similarly high counts of 8,000,000+ total and 320,000 fecal coliform organisms.

MTC-0.60 - the counts in the water from the east branch tributary were 8,000,000+ total coliforms and 800,000+ fecal coliforms. Contamination of such a high concentration poses health hazards to nearby residents.

MTC-0.59 - coliform counts of 440,000 total, and 130,000 fecal were obtained from a sample of the combined flow from Town Creek and the east branch tributary. The sampling point location is approximately 50 feet downstream of the point where the flows combine. It is noted that the tributary contributes significantly to the bacteriological contamination of Town Creek.

MTC-0.54W - a sample of the contents from this storm sewer outfall showed low coliform counts of 30 total and 4 fecal. These figures are reasonable for surface water runoff. Tracer dyes were used in nearby homes, but were not noticeable in the flow from this outfall.

MTC-0.54 - in a stream sample taken near the point of discharge of the above mentioned outfall, coliform counts of 50,000 total and 17,000 fecal were present. Tracer dye tests made on nearby homes located on Power Line Avenue showed negative results. Therefore, it is concluded that the contamination of the creek at this location, is caused by sources upstream of this point.

MTC-0.53P-1 - a private sewer drain effluent sample showed bacteriological results of 100 total coliforms, and six fecal coliforms.

MTC-0.53P - a sample of the effluent taken from this private sewer, produced similar coliform counts to sample No. MTC-0.53P-1.

MTC-0.52P - bacteriological results of a sample taken at this location from a private sewer indicates that the effluent is a major contributor to the contamination of Town Creek. Coliform counts of 8,000,000+ total and 800,000+ fecal were present. Dye tests were made at the homes in the immediate area, but no domestic sewage was found to be gaining access to the creek.

MTC-0.46W - coliform counts of 130 total and 20 fecal were determined in a sample from this storm sewer outfall. These results are typical of storm runoff.

MTC-0.44W - storm water enters the creek on the west side of Cameron Street. High coliform counts of 64,000 total and 400 fecal indicate that a considerable degree of bacteriological pollution is present in the effluent. In order to locate the sources of this problem, dye tests should be made at the homes in the immediate area.

MTC-0.40 - coliform counts of 60,000 total and 4,800 fecal show that the bacteriological quality of the water in the creek has again deteriorated since the previous sample was taken upstream at location 0.54.

MTC-0.39 - results of a bacteriological sample taken at this sampling point shows a total coliform count of 27,000 and a fecal count of 130.

MTC-0.28W - a sample taken from a storm sewer outfall which discharges to the creek at Young Street, revealed coliform counts of 1300 total and 12 fecal. These figures are not abnormal for storm waters.

MTC-0.27W - coliform counts of 1200 total and 18 fecal indicate that a normal quality of storm water is entering the creek from this storm sewer.

MTC-0.26D - effluent discharges to the creek from a ditch located west of Young Street and south of Wilson Avenue. An examination of a sample revealed a total coliform count of 6,200 and 400 fecal organisms. These figures are relatively high for surface runoff. A dye test was made on a nearby home at 383 Wilson Avenue. The results showed no traces of sewage entering Town Creek.

MTC-0.16 - a rapid deterioration of the creek water quality is noted in this vicinity. Coliform counts of a sample showed 260,000 total and 26,000 fecal organisms. Rip-rap has been applied along the banks to this downstream portion of Town Creek in order to prevent erosion. Dye tests were made at homes located at 405 Main Street and 386 Main Street. These tests revealed that raw sewage from these homes (and possibly others), was gaining entry to the creek via an open sewer main on the north side of Main Avenue.

MTC-0.15RS- coliform counts of 8,000,000+ total and 800,000+ fecal indicate that the flow from the above mentioned sewer pipe should not be permitted to enter Town Creek. Immediate steps should be taken to redirect this sewage to the municipal water pollution control plant.

MTC-0.14 - coliform counts of 270,000 total and 56,000 fecal were determined, in a sample taken immediately downstream of the discharge point. These figures are considerably higher than the results from the sample taken immediately upstream (sample No. MTC-0.16).

MTC-0.08P - the effluent discharging from a private sewer drain enters the creek on the south side of Main Avenue. Bacteriological examination of a sample showed coliform counts of 8,000,000+ total and 800,000+ fecal. Such counts indicate the presence of raw sewage. Dye was added into sanitary sewers of homes located at 424 Commercial Street and 386 Main Street. A few minutes later traces of the dye were observed seeping through the stone and concrete rip-rap lining of the creek. It is evident that the open end of a private sewer pipe terminates immediately behind the rip-rap.

MTC-0.01 - a stream sample was obtained from Town Creek at a point approximately 500 feet upstream from the bank of the Mattagami River. Coliform counts of 130,000 total and 40,000 fecal were determined from a bacteriological examination. It is noted that the polluted contents of Town Creek are discharged to the Mattagami River at a point directly opposite a public bathing beach.

IV DISCUSSION

This survey has been conducted as a result of the many complaints forwarded to the Procupine Health Unit and OWRC from nearby residents concerned with foul sewage odours. The results of this and previous surveys indicate the presence of considerable fecal matter in the creek. The dye tests described previously have shown that a portion of this contamination is being caused by illegal connections of house sewers to the storm sewer system which discharges to Town Creek.

A severed section of a sanitary sewer was noted to be discharging raw sewage to Town Creek at location MTC-0.15RS.

Other probable sources of pollution of the creek may be inadequate septic tank systems and private privies, which discharge effluent to Town Creek.

Doran's Northern Ontario Breweries Limited discharges brewery wastes to a catch-basin under Algonquin Street East. These liquids can be diverted either to the town's sanitary or storm sewer systems. During periods of dry weather the brewery wastes are discharged to the sanitary sewer for treatment at the municipal water pollution control plant. However, during intervals of heavy storm flow, these wastes are directed to the storm sewer system which discharges to Town Creek.

Sanitary wastes from the brewery are directed to the municipal sanitary sewer system.

V SANITARY SEWER SYSTEM

The sanitary sewer serving Algonquin Blvd. East has been noted to become overloaded at times. As a result, it is frequently necessary to divert the brewery wastes from Doran's Brewery into the storm sewer system. The opening of a new car wash establishment adjacent to Hollinger Park has added to the hydraulic overloading of the sanitary sewer serving Algonquin Blvd.

It is recommended that the Town of Timmins should install a larger capacity sanitary sewer to serve Algonquin Blvd. East. This would allow the town to discontinue the practice of discharging brewery wastes to the storm sewer system which discharges to Town Creek.

VI SUMMARY AND CONCLUSIONS

A water pollution survey was made of Town Creek in the Town of Timmins during the month of May, 1970.

The town is serviced by a system of separate sewers in which sanitary wastes are directed to the Timmins Water Pollution Control Plant.

A severed section of a sanitary sewer is presently discharging raw sewage to Town Creek at location MTC-0.15RS.

On the basis of this and previous surveys of Town Creek, conducted by the Porcupine Health Unit and the Ontario Water Resources Commission, it was found that sanitary wastes were gaining access to Town Creek via private outfalls and some

sections of the municipal sewer system.

The sanitary sewer serving Algonquin Blvd. East frequently becomes overloaded.

The discharge of polluting wastes to a watercourse is a contravention of the Ontario Water Resources Commission Act. Action should therefore be taken by the Town of Timmins to eliminate the discharging of such wastes to Town Creek or its tributaries.

VII RECOMMENDATIONS

1. The Town of Timmins should accelerate its programme of installing sanitary sewer services for private premises which discharge to Town Creek.

2. The Town of Timmins should locate and eliminate all sources of polluting wastes presently reaching Town Creek via the municipal storm sewer system.

3. The sanitary sewer serving Algonquin Blvd. East should be replaced by a larger capacity sewer pipe. This would allow all of the brewery wastes to be directed to the municipal water pollution control plant.

/cs

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TIMMINS

LEGEND

MTC – 0.26 / D — OUTFALL SAMPLING POINT. — TYPE OF OUTFALL

MTC – 0·60 — STREAM SAMPLING POINT.

D – DITCH
P – PRIVATE SEWER
RS – RELIEF SEWER
W – STORM SEWER

VICTORIA AVE.
WESTMOUNT AVE.
JUBILEE AVE.
HAMELIN AVE.
HENDRY AVE.
BROUSSEAU AVE.
ROSS AVE.
GEORGE AVE.
QUEEN AVE.
POLARIS RD.
CARLIN AVE.
O'NEIL AVE.
LINCOLN AVE.
HILL SIDE AVE.
CRESCENT AVE.
PEARL AVE.
FLORAL AVE.
VIMY AVE.
LAURIER AVE.
BORDEN AVE.
MONS AVE.
CAMBRAI AVE.
MESSINS AVE.
ALGONQUIN AVE.
WILSON AVE.
MAIN AVE.
COMMERCIAL AVE.
BANNERMAN AVE.
MIDDLETON AVE.
KENNIE AVE.
PROSPECT AVE.
ANNE AVE.
OAK AVE.
WILLOW AVE.
POPLAR AVE.
DREW AVE.
EMPIRE AVE.
HOWARD AVE.
NINTH AVE
EIGHTH AVE.
SEVENTH AVE.
SIXTH AVE.
FIFTH AVE.
THIRD AVE.
SECOND AVE.
JOHN AVE.
JAMES AVE.

COLLEGE ST. · UNIVERSITY ST. · MELROSE BLVD. · DIEPPE ST. · ROCHDALE ST. · RICHELEU ST. · CHURCHILL ST. · EYRE BLVD. · McLEAN DRIVE
BARTLEMAN ST. · ELM ST. · MAPLE ST. · BIRCH ST. · BALSAM ST. · CEDAR ST. · PINE ST.
MURRAY ST. · GORDON ST. · HART ST. · PATRICIA BLVD.
GARY ST. · DIANE ST.
REA ST. · FOGG ST. · YOUNG ST. · AVENUE RD. · CHARLES ST. · GILLIES ST. · McLEOD ST.
CAMERON ST. · MOUNTJOY ST. · PRESTON ST. · WILCOX ST.
TAMARACK · HEMLOCK · CHERRY ST. · TOKE ST. · HART ST. · R.D. · LEONE AVE.
LAKESHORE · GILLES LAKE
NORTHLAND · ONTARIO

MTC – 2.00
MTC – 1.90
MTC – 1·91
MTC – 1·90 D
MTC – 1.64 W
MTC – 1·52 W
MTC – 1.21 W
MTC – 1.21
MTC – 1.09
MTC – 1.02 P
MTC – 1·07 D
MTC – 0.99 W
MTC – 0.87 W
MTC – 0.81 W-1
MTC – 0·68 W
MTC – 0.66 P-1
MTC – 0.61 RS
MTC – 0.61
MTC – 0.60
MTC – 0.60 D
MTC – 0.60 D-3
MTC – 0.59
MTC – 0·54 W
MTC – 0.54
MTC – 0.53 P-1
MTC – 0.46 W
MTC – 0·52 P
MTC – 0·53 P
MTC – 0·44 W
MTC – 0.40
MTC – 0.39
MTC – 0.26 D
MTC – 0.28 W
MTC – 0.27 W
MTC – 0.15 RS
MTC – 0.16
MTC – 0.14
MTC – 0·08 P
MTC – 0.01

MATTAGAMI RIVER
MOUNTJOY R.
SWAMP
RAILWAY
HWY No 67

Cat
Envir
Water treat.

ONTARIO WATER RESOURCES COMMISSION

TOWN OF TIMMINS
TOWN CREEK
WATER POLLUTION SURVEY
1970

SCALE: 1" = 400'	
DRAWN BY: R.D.L.	DATE: AUGUST 1970
CHECKED BY:	DRAWING No 70-122 DE.


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